

## Number Theory Homework #2

Prof. Zeev Rudnick

To be handed in on Monday, November 14, 2011.

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1. Give the continued fraction expansion of the rationals  $17/6$ ,  $53/22$ ,  $357/52$ .
  2. Find the rational numbers represented by the continued fractions  $[3;5,8]$ ,  $[1;2,3,4]$ ,  $[1;1,1,1]$ ,  $[1;1,1,1,1]$ .
  3. Find all integer solutions to the equations  $24x + 138y = 18$ ,  $56x + 72y = 40$ .
  4. Let  $m$  and  $n$  be coprime (זרמים). Show that if both  $m|c$  and  $n|c$ , then  $mn|c$ .
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Course homepage: [http://www.math.tau.ac.il/~rudnick/courses/int\\_numth.html](http://www.math.tau.ac.il/~rudnick/courses/int_numth.html)